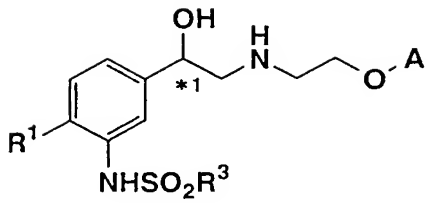
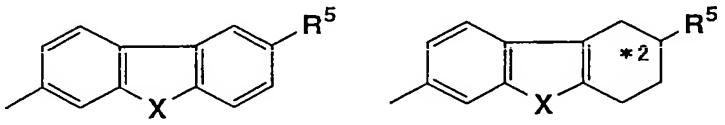


(1)

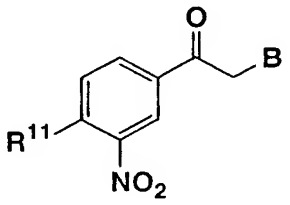
wherein R^1 represents a hydrogen or halogen atom, or a hydroxyl group, R^3 represents a lower alkyl group or a benzyl group, *1 represents an asymmetric carbon atom, and A represents one of the following groups:



wherein X represents NH, O or S, R^5 represents a hydrogen atom, or a hydroxyl, amino or acetylamino group, *2 represents an asymmetric carbon atom when R^5 is not a hydrogen atom,

said process comprising:

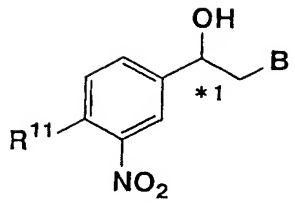
reducing a compound of the formula (7):



(7)

wherein R^{11} represents a hydrogen or halogen atom, or a protected hydroxyl group, B represents a chlorine or bromine atom, to give a halohydrin of the

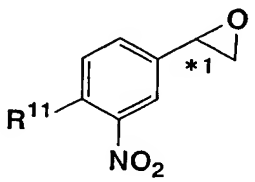
formula (6):



(6)

wherein R^{11}, B and *1 are as defined above; and,

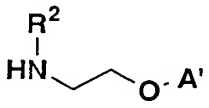
converting the halohydrin under alkaline conditions into an epoxy compound of the formula (5):



(5)

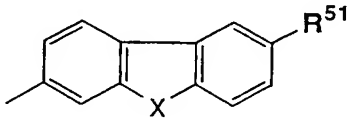
wherein R^{11} and *1 are as defined above; and,

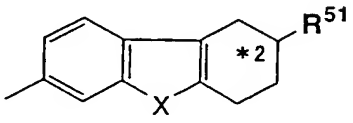
reacting the epoxy compound with a compound of the formula (9):



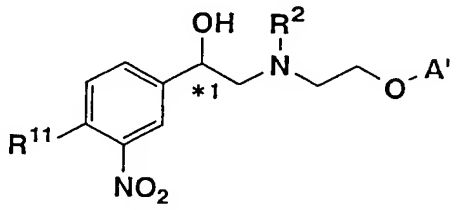
(9)

wherein R^2 represents an amino-protecting group, and A' represents one of the following groups:



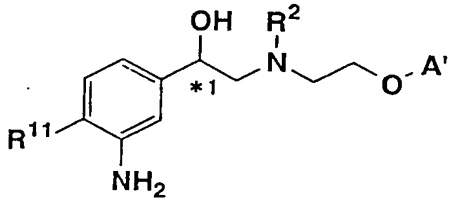


wherein X represents NH, O or S, R^{51} represents a hydrogen atom, a protected hydroxyl group, a protected amino group or an acetylamino group, and *2 represents an asymmetric carbon atom when R^{51} is not a hydrogen atom, to give an amino alcohol of the formula (4):



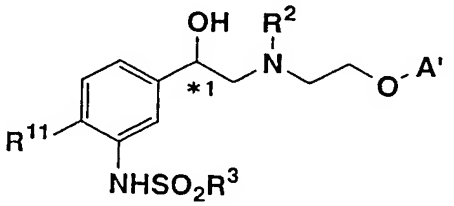
(4)

wherein R^{11}, R^2, A' and *1 are as defined above; and,
reducing the nitro group to give an aniline derivative of the formula (3):



(3)

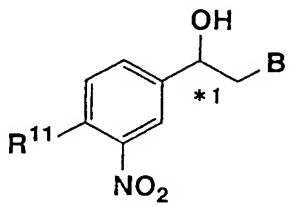
wherein R^{11}, R^2, A' and *1 are as defined above; and,
reacting the aniline derivative with a sulfonating agent to give an amino alcohol of the formula (2):



(2)

wherein R^3, R^{11}, R^2, A' and *1 are as defined above; and then,
simultaneously or sequentially removing the protecting groups to give the compound of the formula (1).

--14. (new) A process for the preparation of either one of optical isomers of a halohydrin of the formula (6):

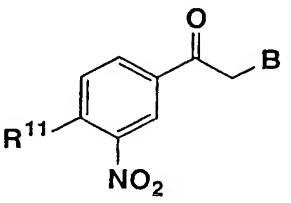


(6)

wherein R^{11} represents a hydrogen or halogen atom, or a protected hydroxyl group, and B represents a chlorine or bromine atom, and *1 represents an asymmetric carbon atom,

said process comprising:

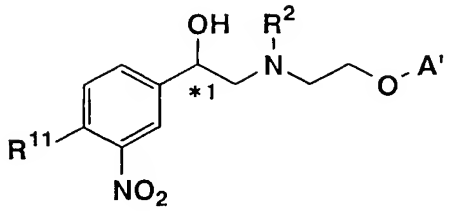
asymmetrically reducing a compound of the formula (7):



(7)

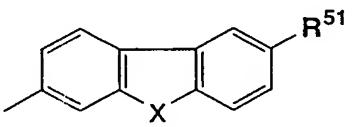
wherein R^{11} and B are as defined above, using an asymmetric reduction catalyst together with a hydrogen donor, said asymmetric reduction catalyst being prepared preliminarily or *in situ* in a reaction system from a metal complex and a ligand, said metal complex being a transition metal complex represented by MX_mL_n in which M is a transition metal of ruthenium or rhodium, X represents a hydrogen or halogen atom, or a carboxyl, hydroxyl, alkoxyl group and the like, L represents a neutral ligand, such as an aromatic or olefin compound, and m and n represent integers, and said ligand being an optically active amine compound, to give the compound of the formula (6).

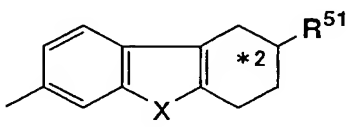
--15. (new) A process for the preparation of a compound of the formula (4):



(4)

wherein R^{11} represents a hydrogen or halogen atom, or a protected hydroxyl group, R^2 represents an amino-protecting group, *1 represents an asymmetric carbon atom, and A' represents one of the following groups:

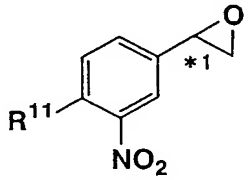




wherein X represents NH, O or S, R^{51} represents a hydrogen atom, a protected hydroxyl group, a protected amino group or an acetylamino group, and *2 represents an asymmetric carbon atom when R^{51} is not a hydrogen atom,

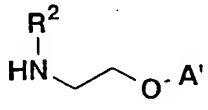
said process comprising:

reacting an epoxy compound of the formula (5):



(5)

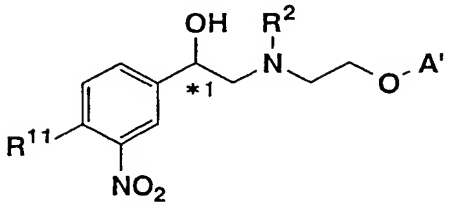
wherein R^{11} and *1 are as defined above, with a compound of the formula (9):



(9)

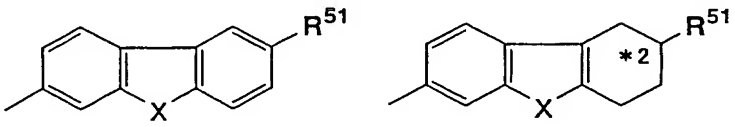
wherein R^2 and A' are as defined above, to give the compound of the formula (4).

--16. (new) A compound of the formula (4):



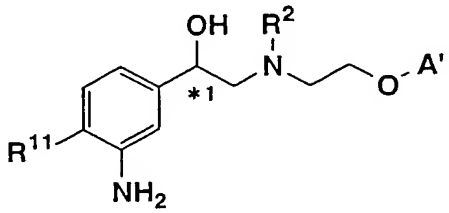
(4)

wherein R^{11} represents a hydrogen or halogen atom, or a protected hydroxyl group, R^2 represents an amino-protecting group, *1 represents an asymmetric carbon atom, and A' represents one of the following groups:



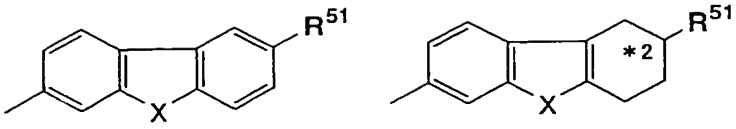
wherein X represents NH, O or S, R^{51} represents a hydrogen atom, a protected hydroxyl group, a protected amino group or an acetylamino group, and *2 represents an asymmetric carbon atom when R^{51} is not a hydrogen atom, or a salt thereof.

--17. (new) A compound of the formula (3):



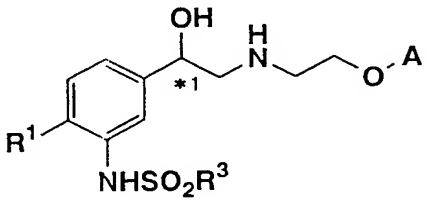
(3)

wherein R^{11} represents a hydrogen or halogen atom, or a protected hydroxyl group, R^2 represents an amino-protecting group, *1 represents an asymmetric carbon atom, and A' represents one of the following groups:



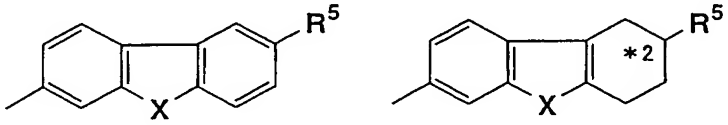
wherein X represents NH, O or S, R^{51} represents a hydrogen atom, a protected hydroxyl group, a protected amino group or an acetylamino group, and *2 represents an asymmetric carbon atom when R^{51} is not a hydrogen atom, or a salt thereof.

--18. (new) A process for the preparation of a compound of the formula (1):



(1)

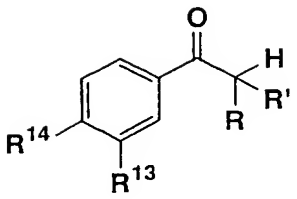
wherein R^1 represents a hydrogen or halogen atom, R^3 represents a lower alkyl group or a benzyl group, *1 represents an asymmetric carbon atom, and A represents one of the following groups:



wherein X represents NH, O or S, R^5 represents a hydrogen atom, or a hydroxyl, amino or acetylamino group, and *2 represents an asymmetric carbon atom when R^5 is not a hydrogen atom,

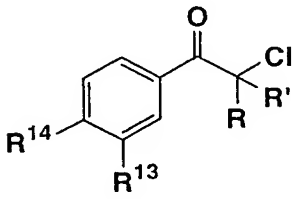
said process comprising:

chlorinating a compound of the formula (18):



(18)

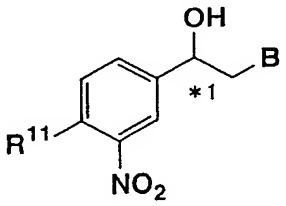
wherein R^{14} represents a hydrogen or halogen atom, R^{13} represents nitro, and both R and R' represent a hydrogen atom, with sulfuryl chloride in an ether solvent, to give a compound of the formula (19):



(19)

wherein R^{13}, R^{14}, R and R' are as defined above; and,

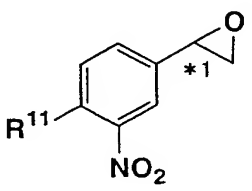
reducing the chlorinated compound to give a halohydrin of the formula (6):



(6)

wherein R^{11} represents a hydrogen or halogen atom, B represents a chlorine atom, and *1 is as defined above; and,

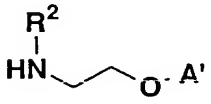
converting the halohydrin under alkaline conditions into an epoxy compound of the formula (5):



(5)

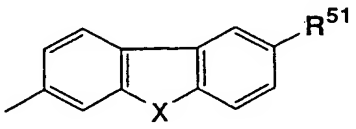
wherein R^{11} and *1 are as defined above; and,

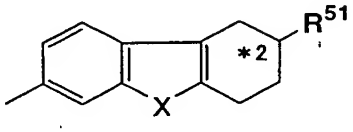
reacting the epoxy compound with a compound of the formula (9):



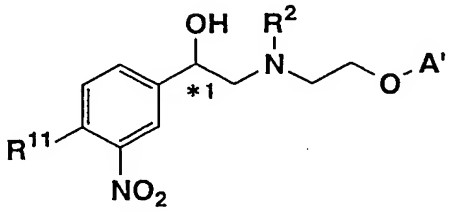
(9)

wherein R^2 represents an amino-protecting group, and A' represents one of the following groups:





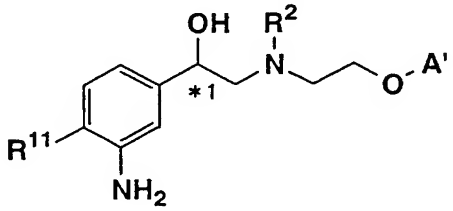
wherein X represents NH, O or S, R^{51} represents a hydrogen atom, a protected hydroxyl group, a protected amino group or an acetylamino group, and *2 represents an asymmetric carbon atom when R^{51} is not a hydrogen atom, to give an amino alcohol of the formula (4):



(4)

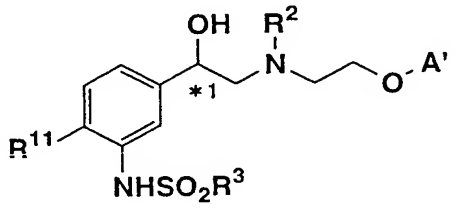
wherein R^{11}, R^2, A' and *1 are as defined above; and,

reducing the nitro group to give an aniline derivative of the formula (3):



(3)

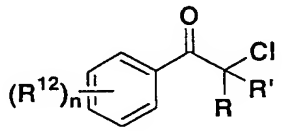
wherein R^{11}, R^2, A' and *1 are as defined above; and,
reacting the aniline derivative with a sulfonating agent to give an amino alcohol of the formula (2):



(2)

wherein R^3, R^{11}, R^2, A' and *1 are as defined above; and then,
simultaneously or sequentially removing the protecting groups to give the compound of the formula (1).

--19. (new) A process for the preparation of an α-chloroacetophenone derivative of the formula (17):

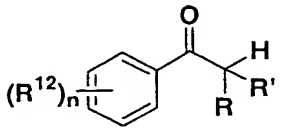


(17)

wherein n represents 1 to 5, R^{12} represents a hydrogen or halogen atom, or acyloxy, acylamino, $NR^6SO_2R^3$, cyano, trifluoromethyl or nitro, and when n is 2 or more, R^{12} represents same or different substituents as defined above, and R and R' may be same or different from each other and represent a hydrogen atom, or a lower alkyl group or an aryl group, and wherein R^6 represents a hydrogen atom or an amino-protecting group, and R^3 represents a lower alkyl group or a benzyl group,

said process comprising:

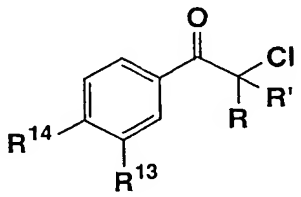
chlorinating a compound of the formula (16):



(16)

wherein n, R^{12}, R and R' are as defined above, with sulfuryl chloride in an ether solvent to give the compound of the formula (17).

--20. (new) A process for the preparation of an α-chloroacetophenone derivative of the formula (19):

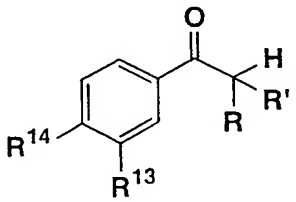


(19)

wherein R^{14} represents a hydrogen or halogen atom, R^{13} represents nitro, and both R and R' represent a hydrogen atom,

said process comprising:

chlorinating a compound of the formula (18):

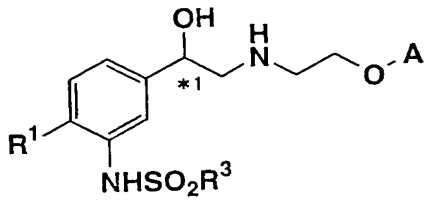


(18)

--21. (new) The process of claim 19, wherein the ether solvent used is diisopropyl ether or methyl t-butyl ether.

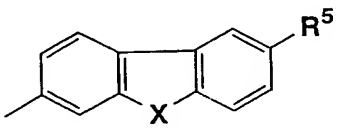
--22. (new) The process of claim 20, wherein the ether solvent used is diisopropyl ether or methyl t-butyl ether.

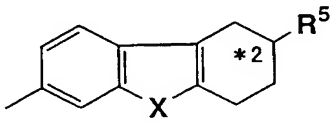
--23. (new) A process for the preparation a compound of the formula (1):



(1)

wherein R^1 represents a hydrogen or halogen atom, or a hydroxyl group, R^3 represents a lower alkyl group or a benzyl group, *1 represents an asymmetric carbon atom, and A represents one of the following groups:

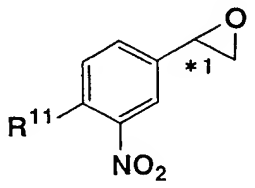




wherein X represents NH, O or S, R^5 represents a hydrogen atom, or a hydroxyl, amino or acetylamino group, *2 represents an asymmetric carbon atom when R^5 is not a hydrogen atom,

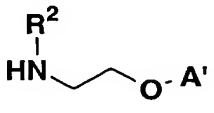
said process comprising:

reacting an epoxy compound of the formula (5):



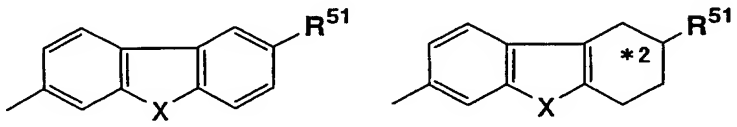
(5)

wherein R^{11} represents a hydrogen or halogen atom, or a protected hydroxyl group, and *1 has the same meaning as defined above, with a compound of the formula (9):

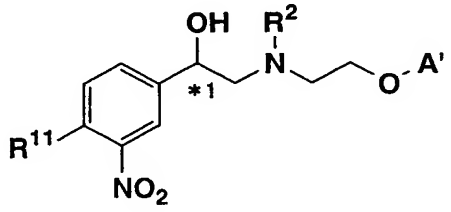


(9)

wherein R^2 represents a protective group for the amino group, and A' represents one of the following groups:



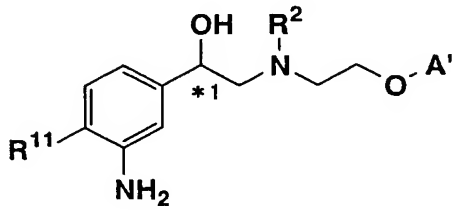
wherein X represents NH, O or S, R^{51} represents a hydrogen atom, a hydroxyl group protected by a protective group, an amino group protected by a protective group or an acetylamino group, and *2 represents an asymmetric carbon atom when R^{51} is not a hydrogen atom, to give an amino alcohol of the formula (4):



(4)

wherein R^{11}, R^2, A' and *1 are as defined above; and,

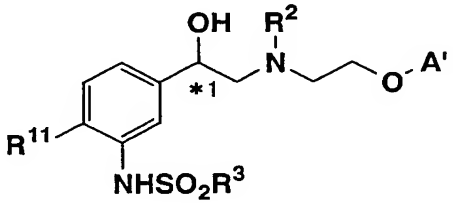
reducing the nitro group to give an aniline derivative of the formula (3):



(3)

wherein R^{11}, R^2, A' and *1 are as defined above; and,

reacting the aniline derivative with a sulfonating agent to give an amino alcohol of the formula (2):

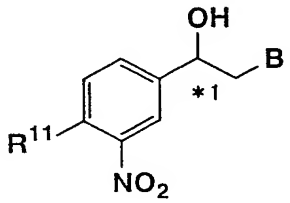


(2)

wherein R^3, R^{11}, R^2, A' and *1 are as defined above; and then,

simultaneously or sequentially removing the protective groups to give the compound of the formula (1).

--24. (new) An optical isomer of a compound of the formula (6):



(6)

wherein R^{11} represents a hydrogen or halogen atom, or a protected hydroxyl group, B represents a chlorine atom, and *1 represents an asymmetric carbon atom.